

GEORGE ENGELMANN  
BOTANICAL NOTEBOOKS

*Pagination Note:*

*Since many of the items lack a specific page number, the page number displayed online refers to the sequentially created number each item was given upon cataloging the materials.*



N. 2

*Isotria medeolae*

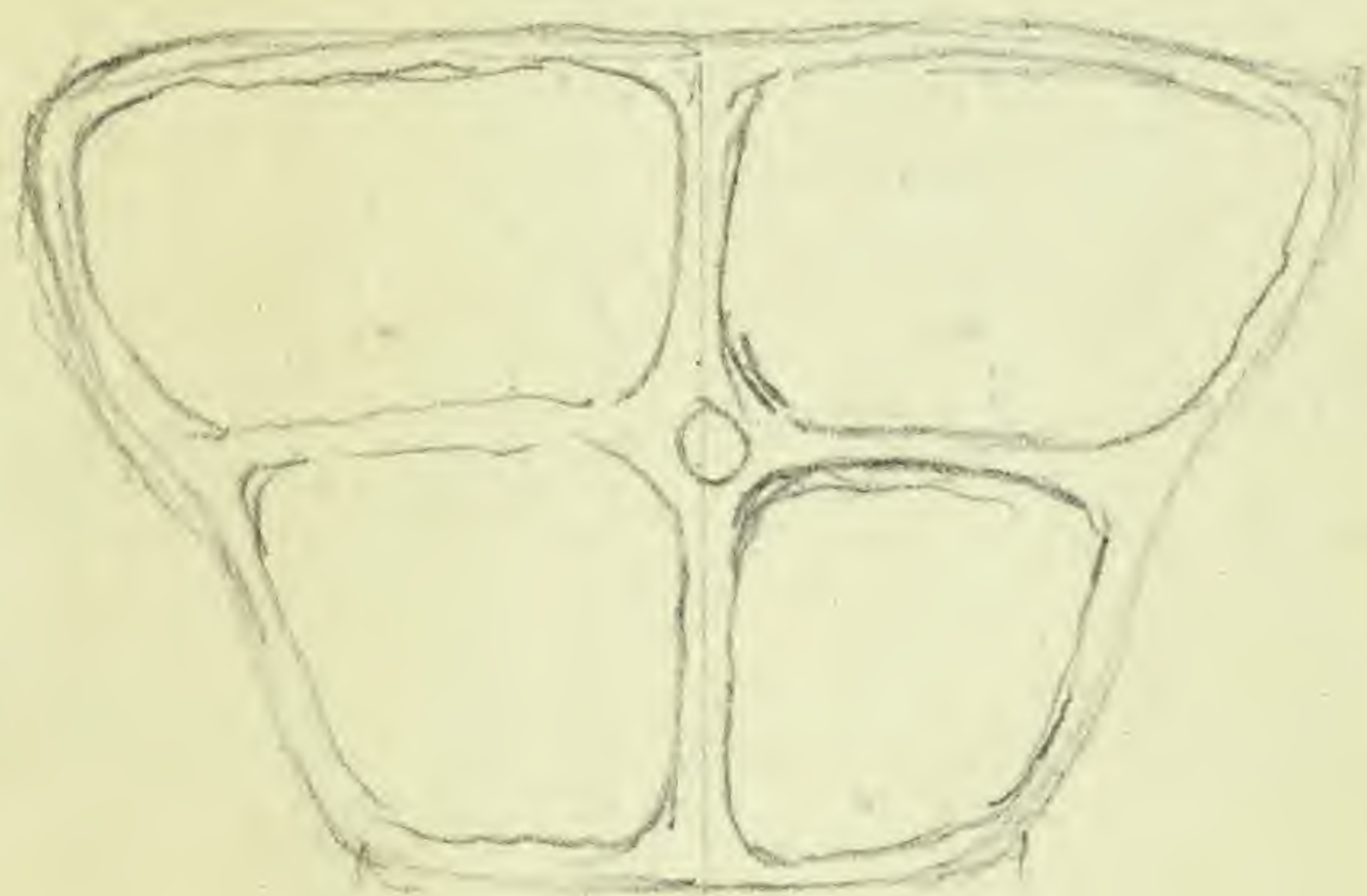
July 29 1866

Wm M Canby

July 23 1866

leaves a foot long or more  
tips rotten off - old leaves  
and fruit ripe - a new  
growth in the centre

section



largest leaves  
x10

x2



Diam. Spores x60



x2

Spores 0.41 - 0.50 mm

Halves of old bulb <sup>x2</sup> decaying,  
blackish brown -  
Are these the growth of 1865 or  
rather the older growth of 1866?



an inner leaf



0 1 2 3 4 5 6 7 8 9 10

cm

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over

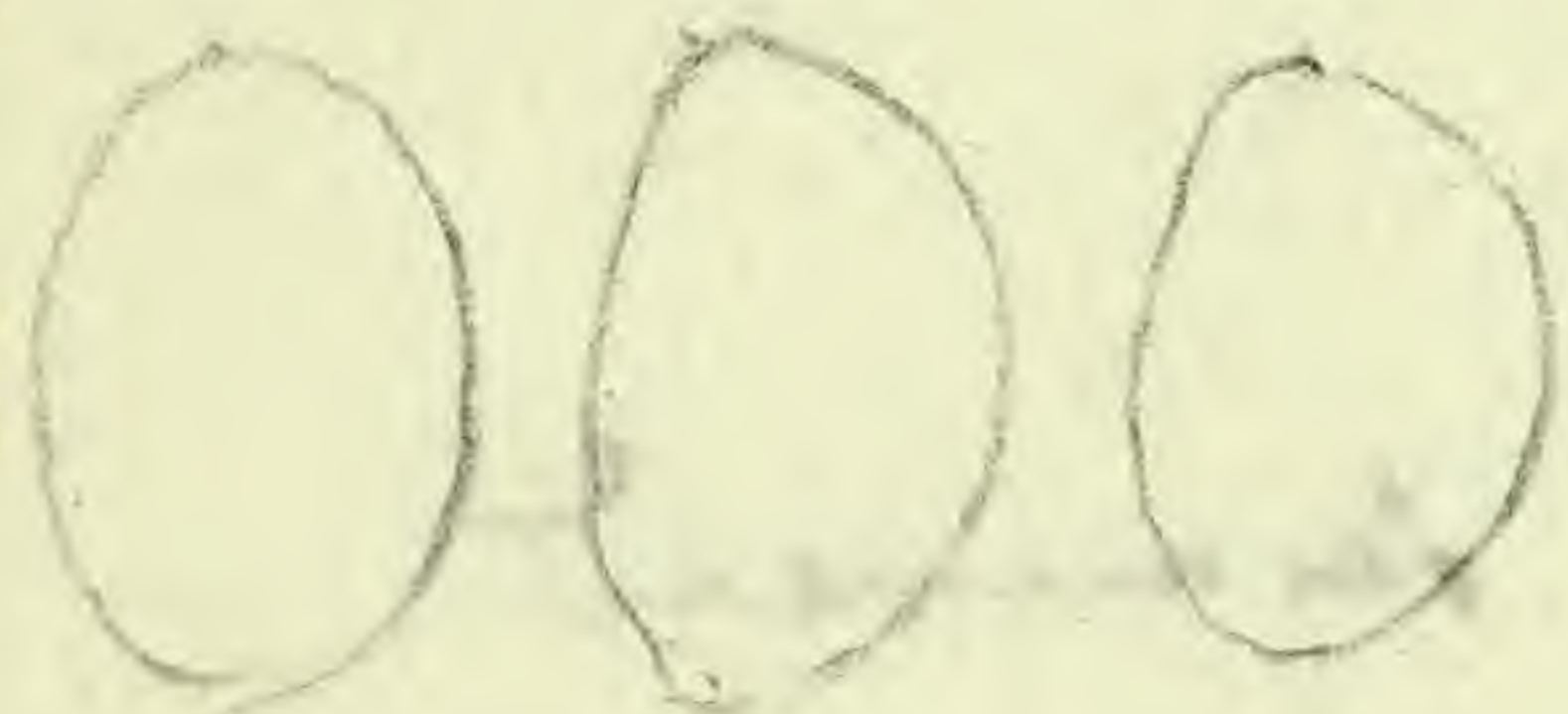
*Isotria medeolae* Sept 21 1866  
*Rhododendron virginicum*

Dry specimens

fol 8-12

10-12 inches long

x415



$$\frac{11-12}{415} =$$

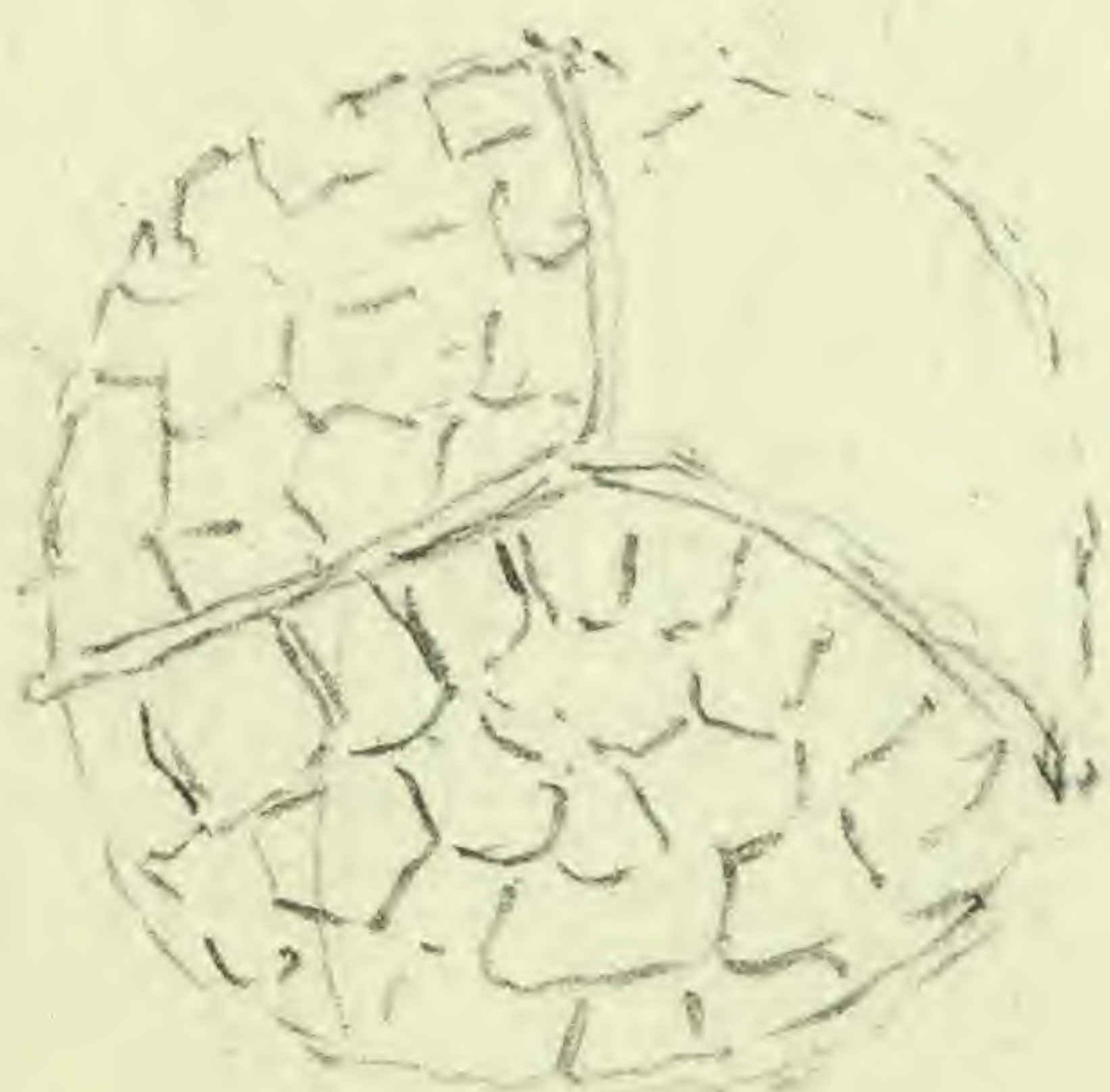
0.027-0.029 mm

old note says:

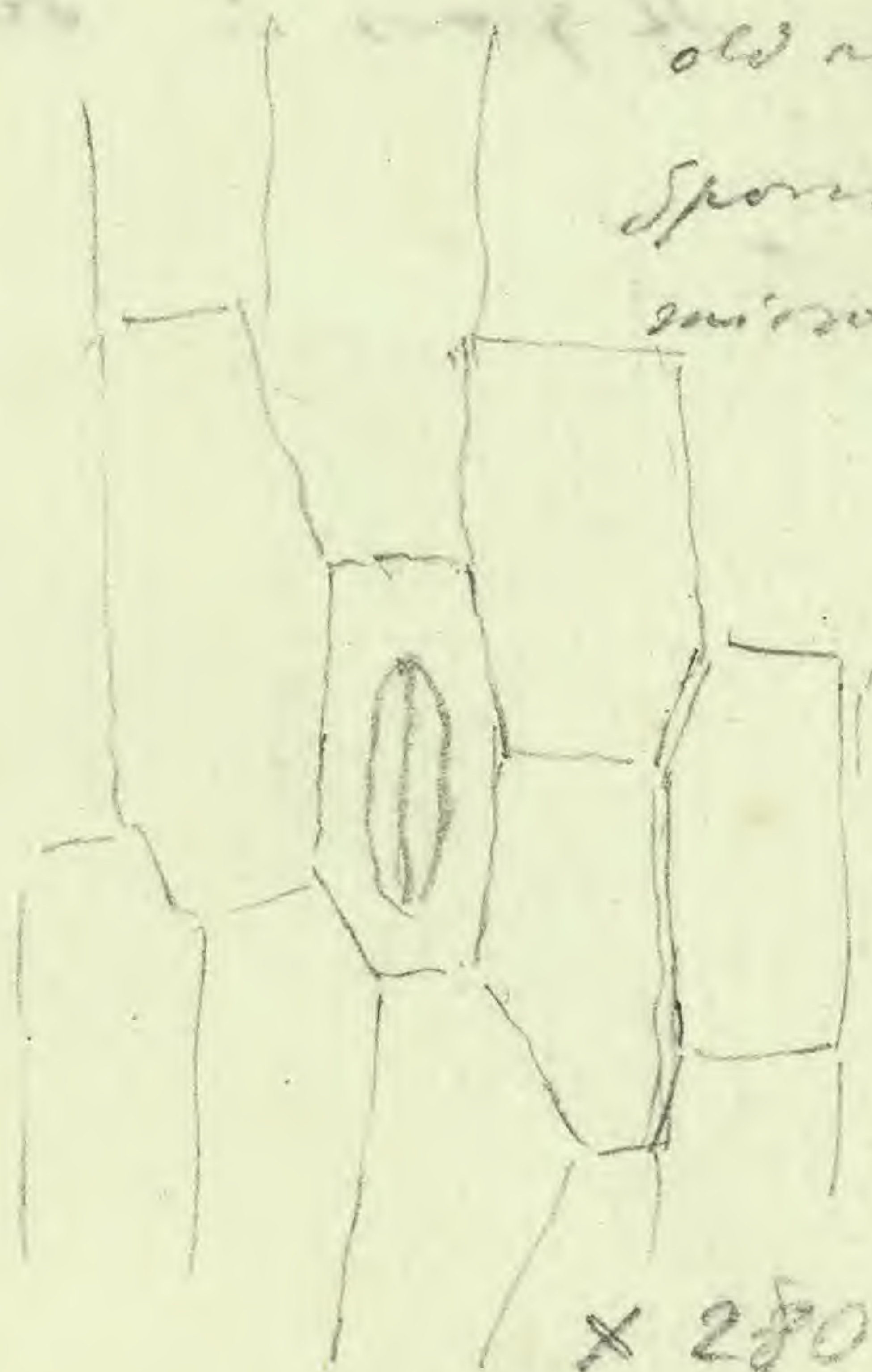
Spores 0.40 mm diam

microspores 0.028 mm long  
Smooth edges

x60



x2



x280

June 25 1867

of bast bundles regular.

Dissepiments

very thin, 2-

3 layers of cells

walls also thin

$$\frac{26-29}{60} \text{ mm} = 0.43 - 0.48 \text{ mm}$$



mean size 0.46 mm

stomata very few

(stomata abundant!  $\frac{25}{6} 67$ )



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ST. LOUIS, MO.

& I received writer Sept. 27, 1866 ;  
I had this species 5 or 6 years ago from Mr. Thurber.  
Later Prof. Bridges brought home some specimens, from the  
vicinity of Newport - - -

It grows in dead water, completely immersed



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N. l. a  
valida

Portia nana

July 28 1866

Wm M. Canby July 23 1866

sect through shorter diameter of bulb



sect. through  
centre

sect. through side  
parallel with last.



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W1 a.

*Hoopesia* ~~nov~~ *valida*

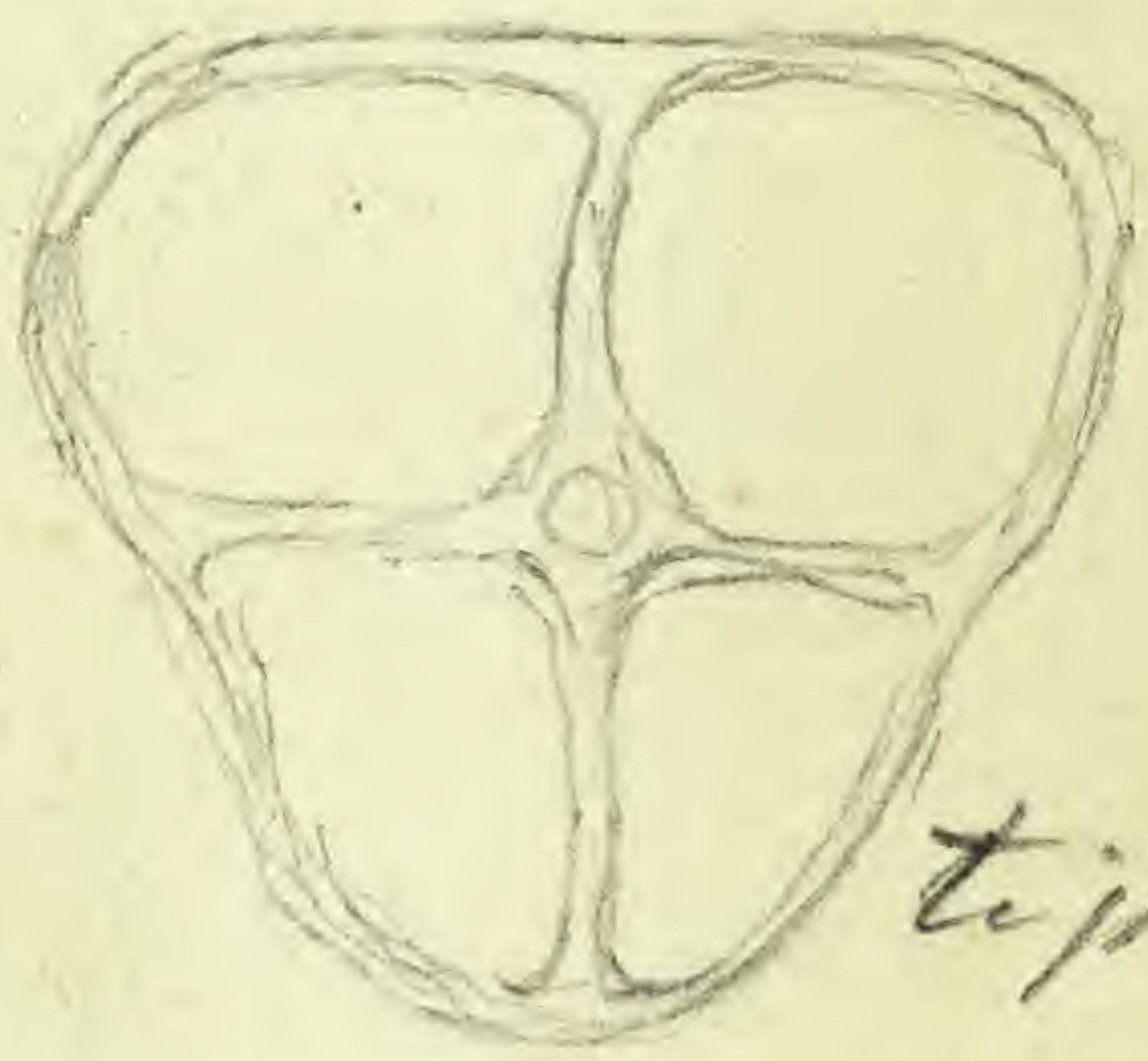
July 27 1866

sections of leaf  
one

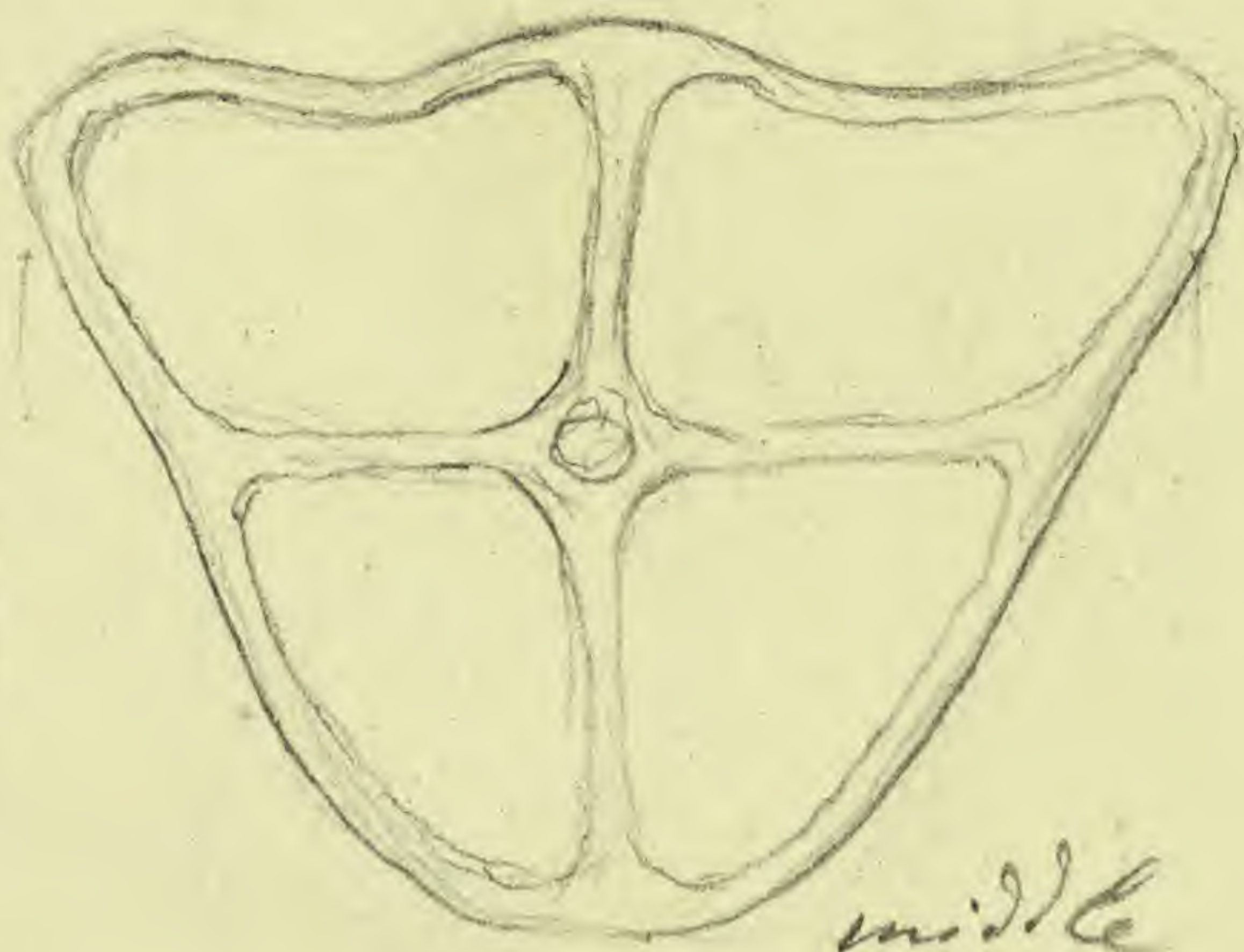
Wilmington, Del., July 23<sup>d</sup>

70 leaves 18-20 inches long

x 10

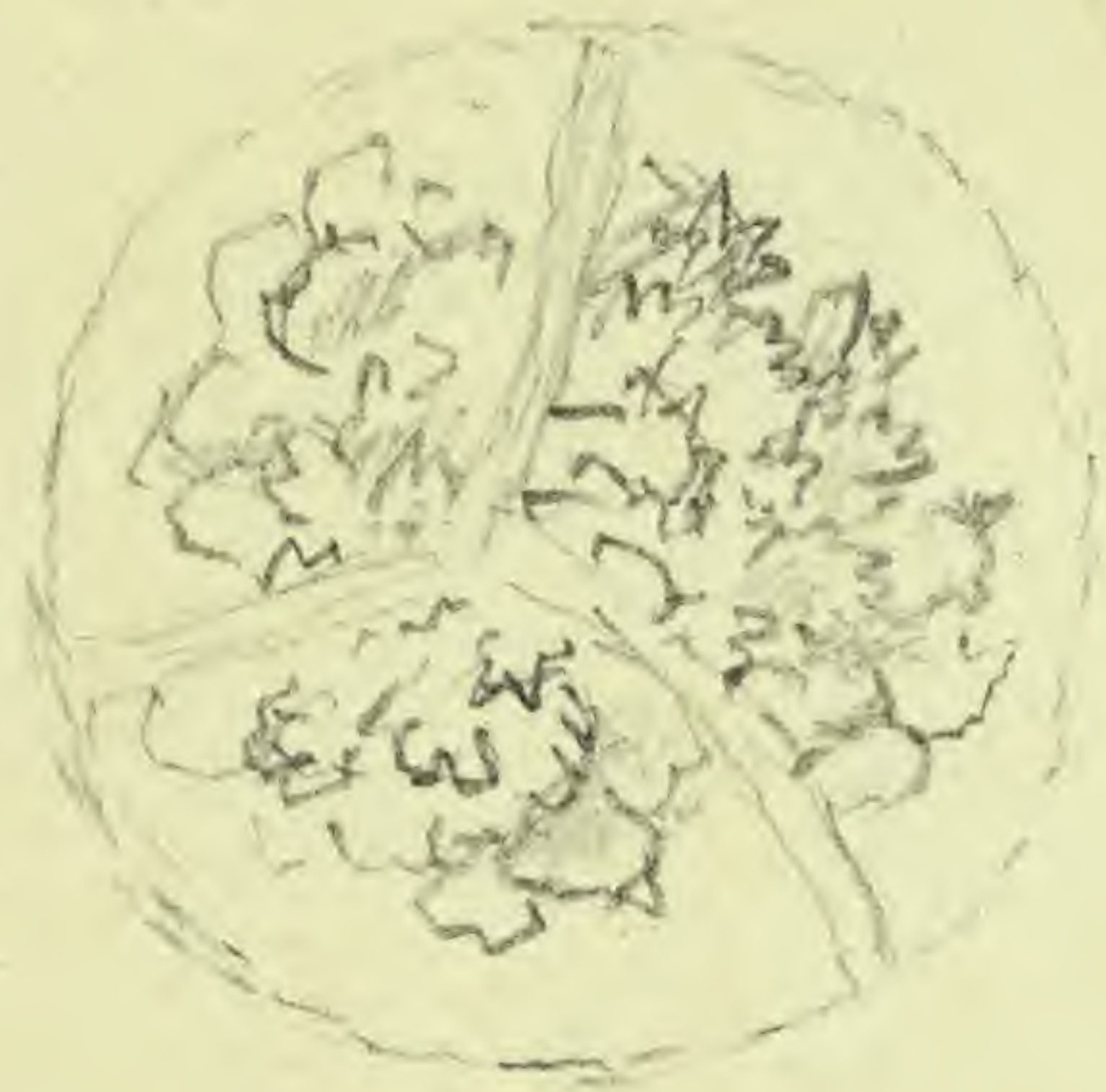


tip

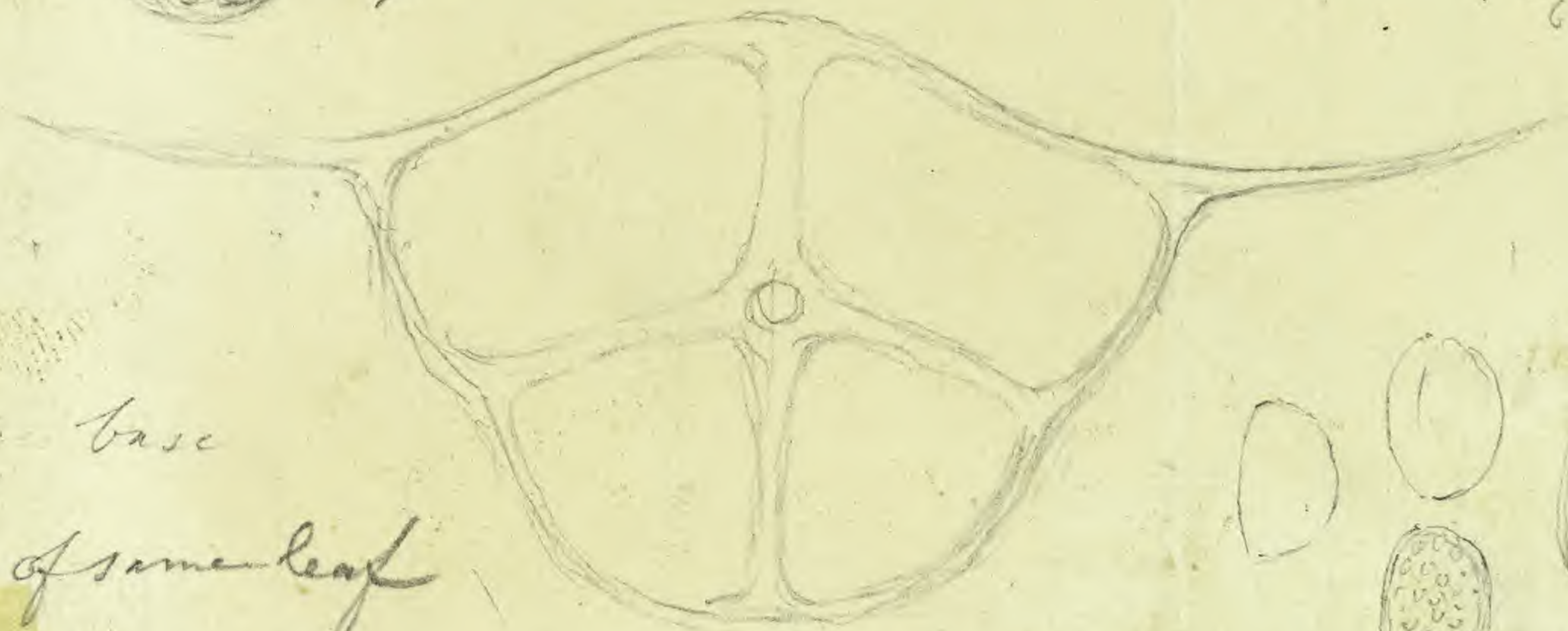


middle

x 60



26  
60



base

of same leaf



x 415

macrospore  
outer leaf

microspore  
200 trabeculae

x 2

Spores x 60  
0.40-0.48  
mostly 0.43  
-0.44



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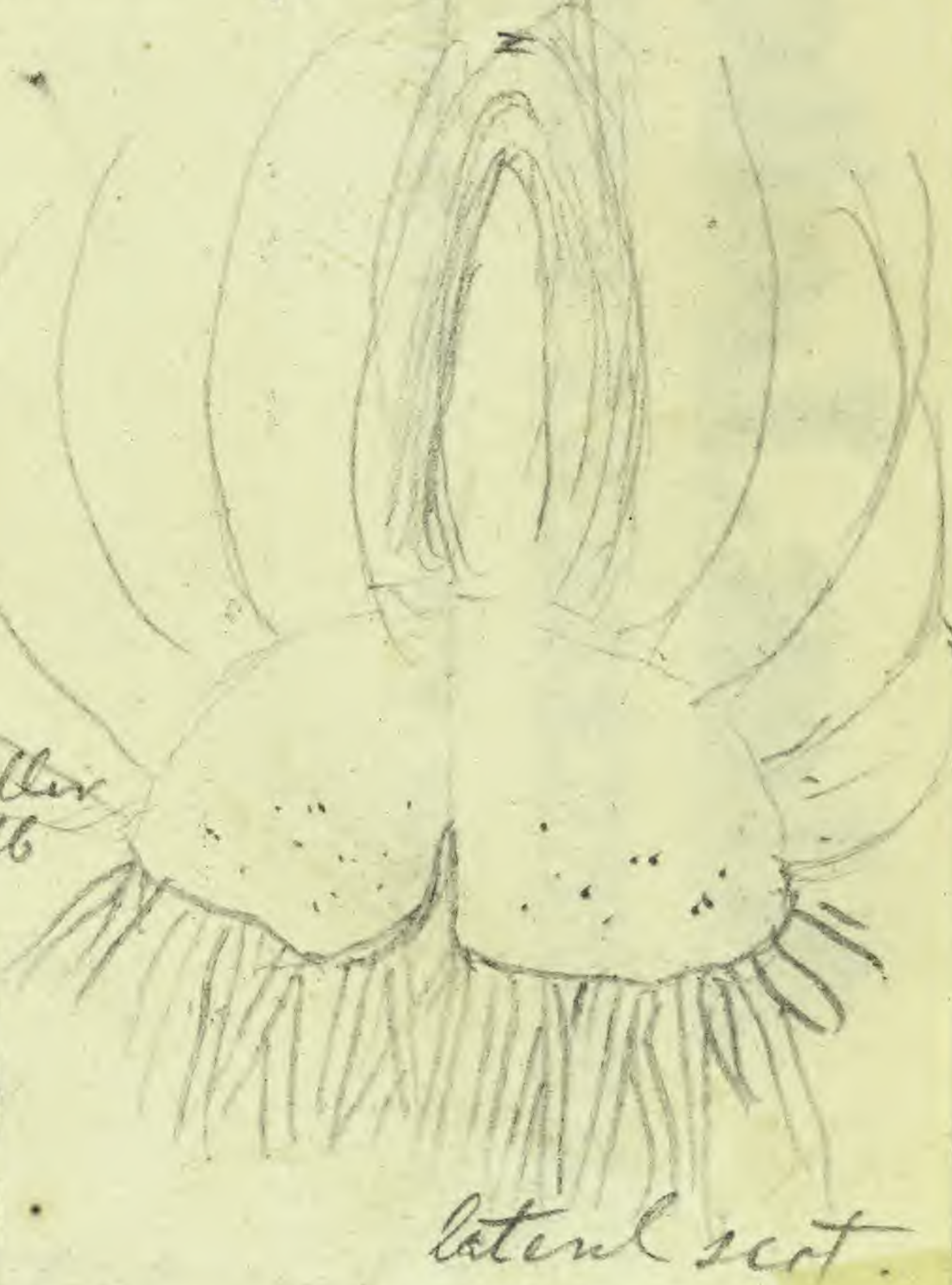
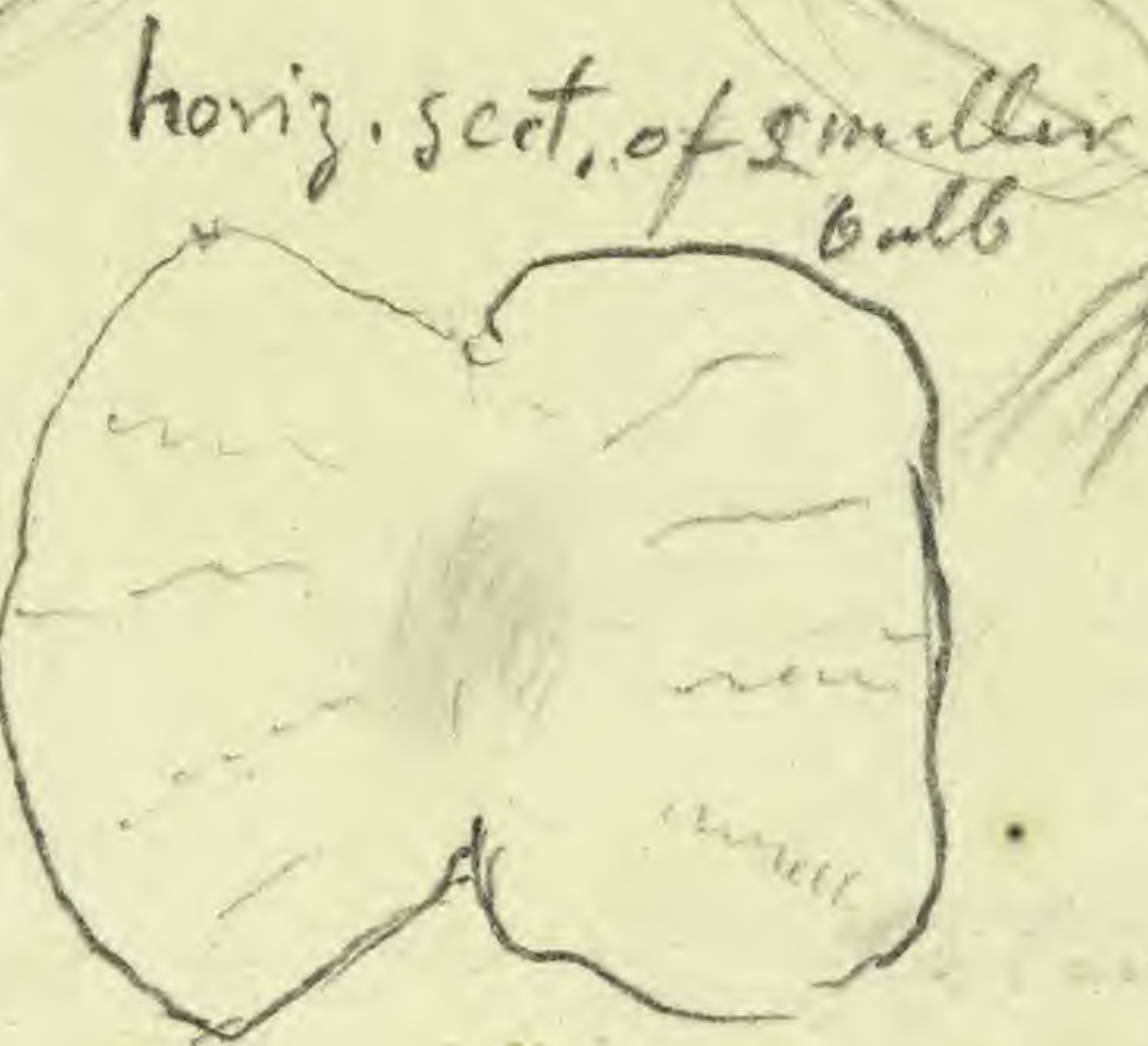


N. 1. 6.  
valida  
all x2

*Isotria medeolae* valida  
Wilmington July 23 1866

July 28 1866  
Wm M Canby

sect through longer diameter of bulb



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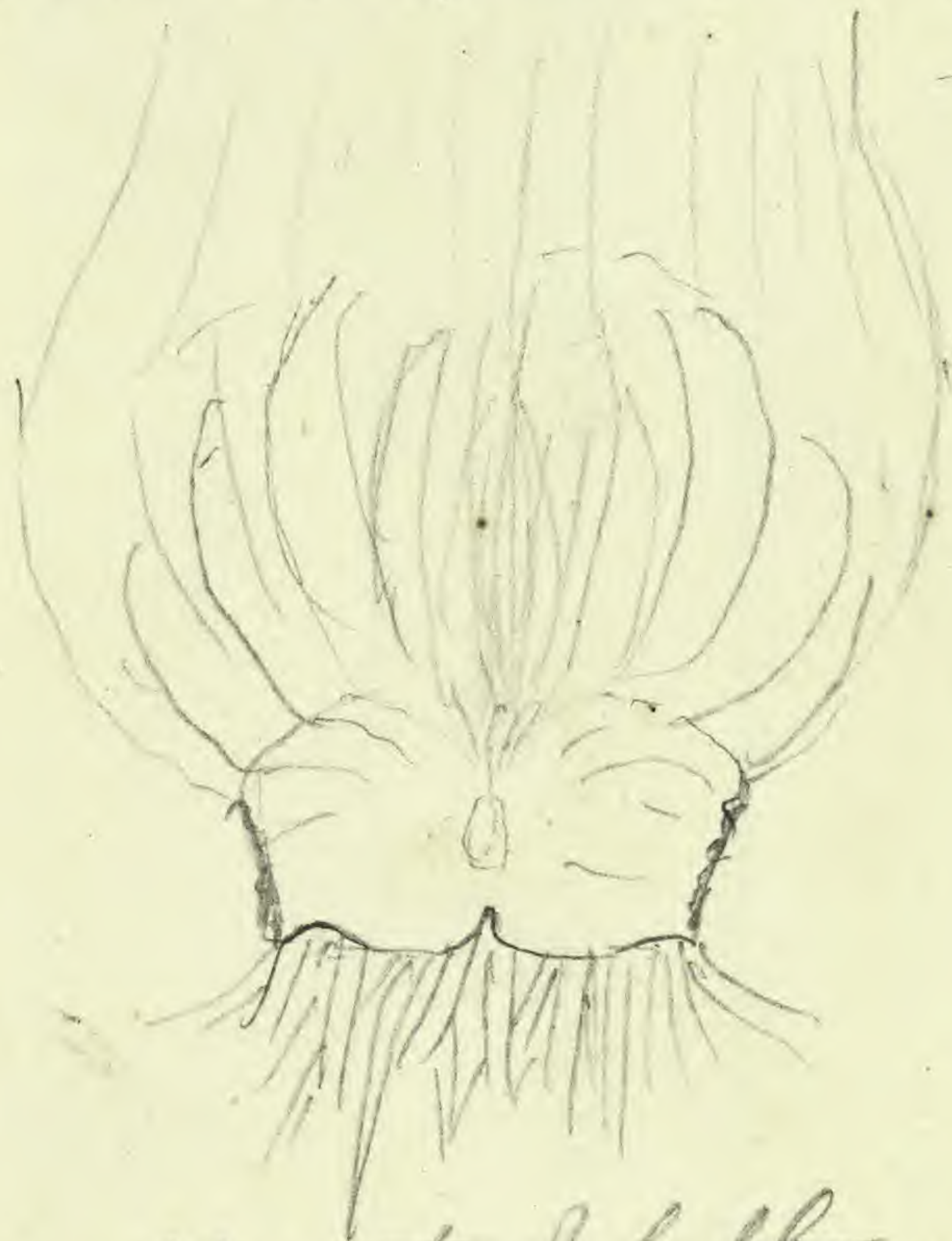
N. 1. c

*Saxifraga nivalis* *valida*

July 28 1866

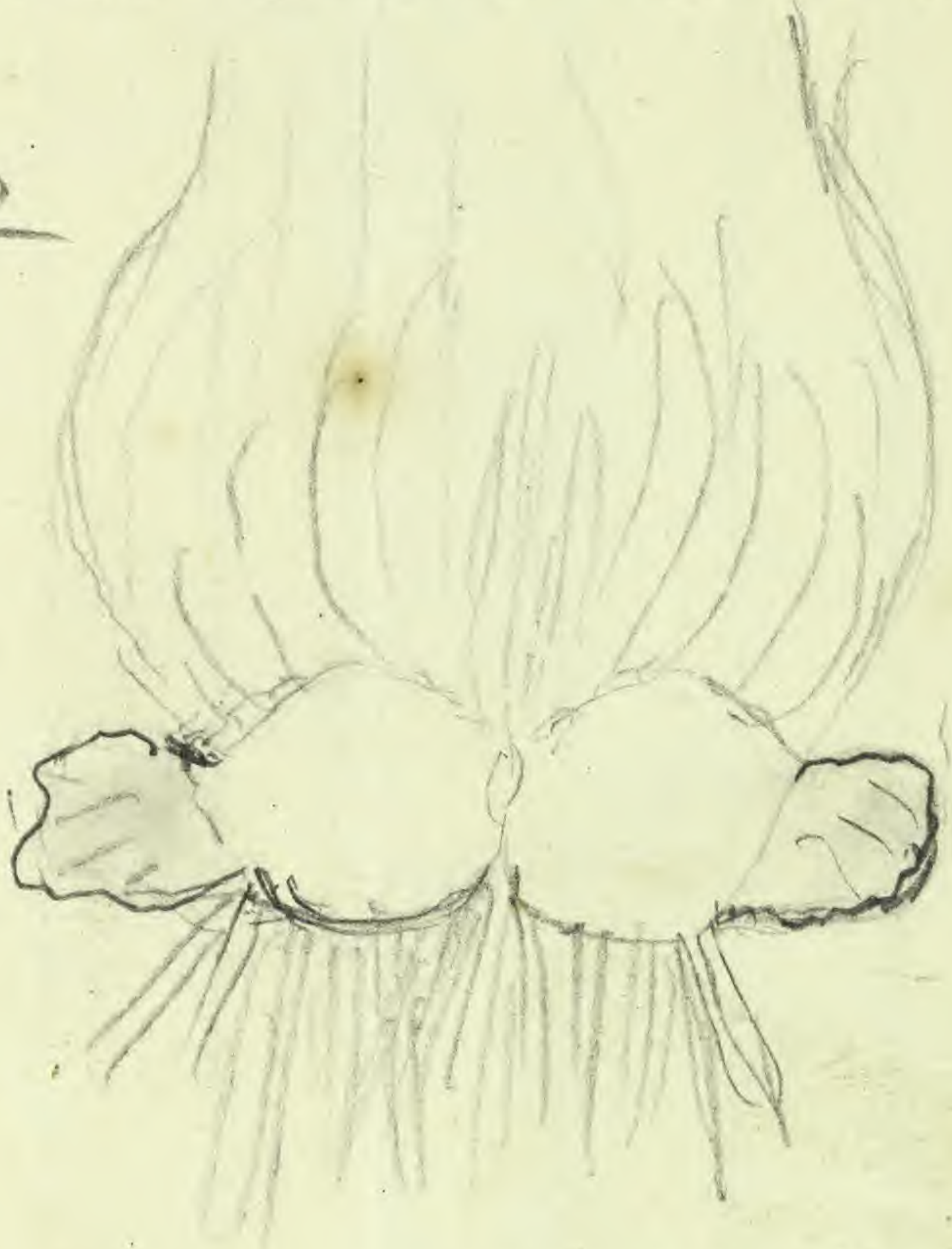
Canby W. Virginia July 23<sup>d</sup> 1866

smaller specimens with 40 or 50 leaves 16-18 inches long



old parts of bulb  
have fallen off  
completely

x2



old parts of bulb  
still fresh, only a little  
less white than young bulb

Keel'd leaves



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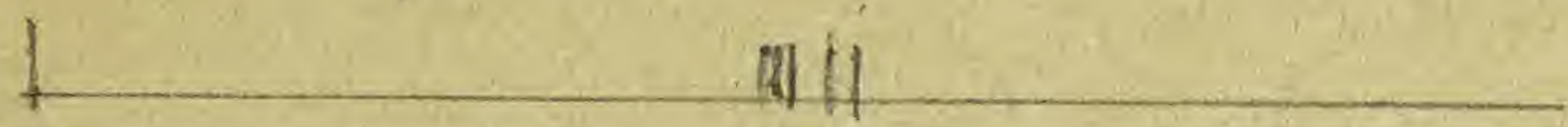
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*Pyrola*  
form minor borealis Dec 14 1866  
"Brattle Brough Vermont 18"

Diam of spores 0.38-0.45 mm

ex Hb. Gray



x60



sporangia

x280



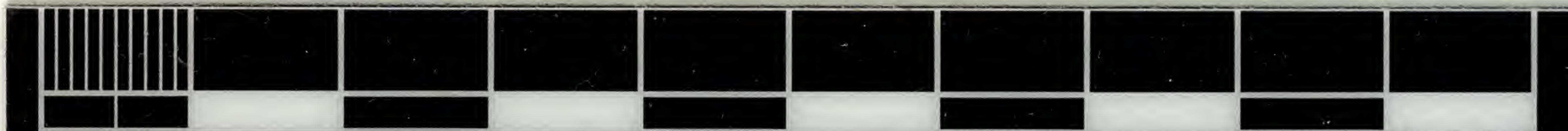
small plant, apparently  
17 or 15 leaves,  
leaves 8-10 centim long?  
(broken off)

stomata (apparently  
rare (in very  
distinctly seen)



$\frac{10.5 - 11.5}{415} = 0.025 - 0.028 \text{ mm}$

x2



0 1 2 3 4 5 6 7 8 9 10

cm

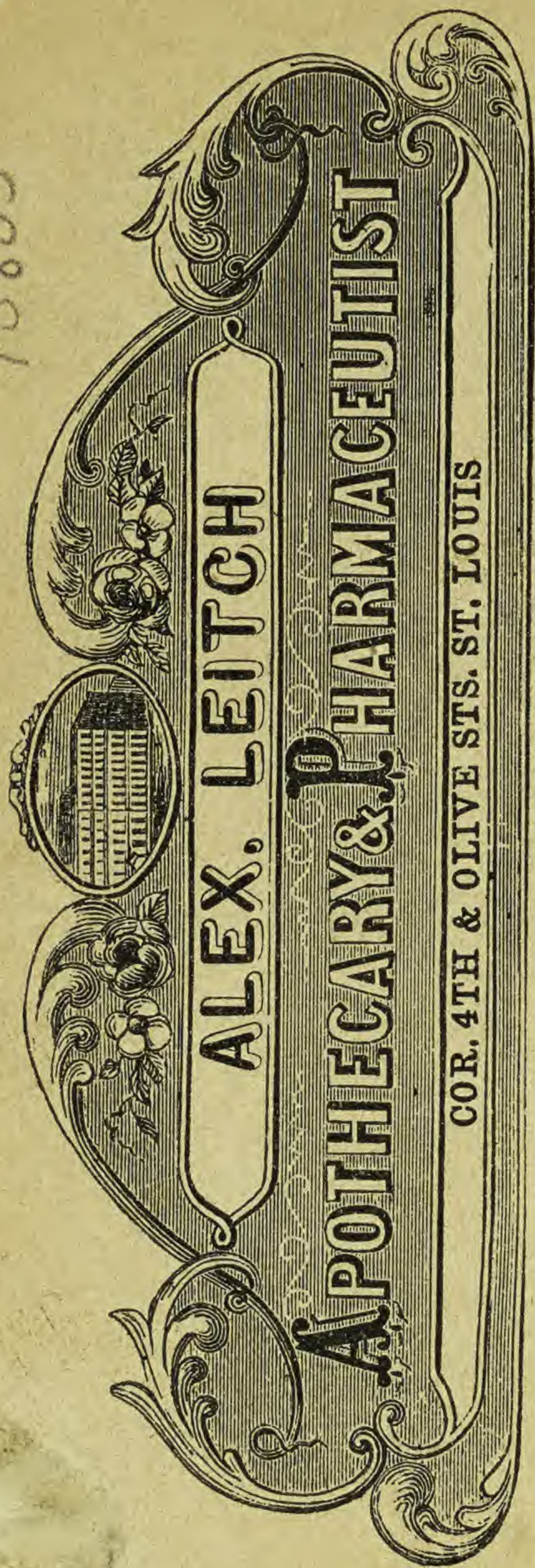
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*Soetes Engelmanni*

Dec 24 1866

Fresh Water Tidal shore, New Haven Ct 1857.  
(with *Tillaea*, *Cladonia*, *Limosella*, *Rhizanthus*, *Priocaulon*

S.C. Eaton sept



*macrospora favoso-reticulata*

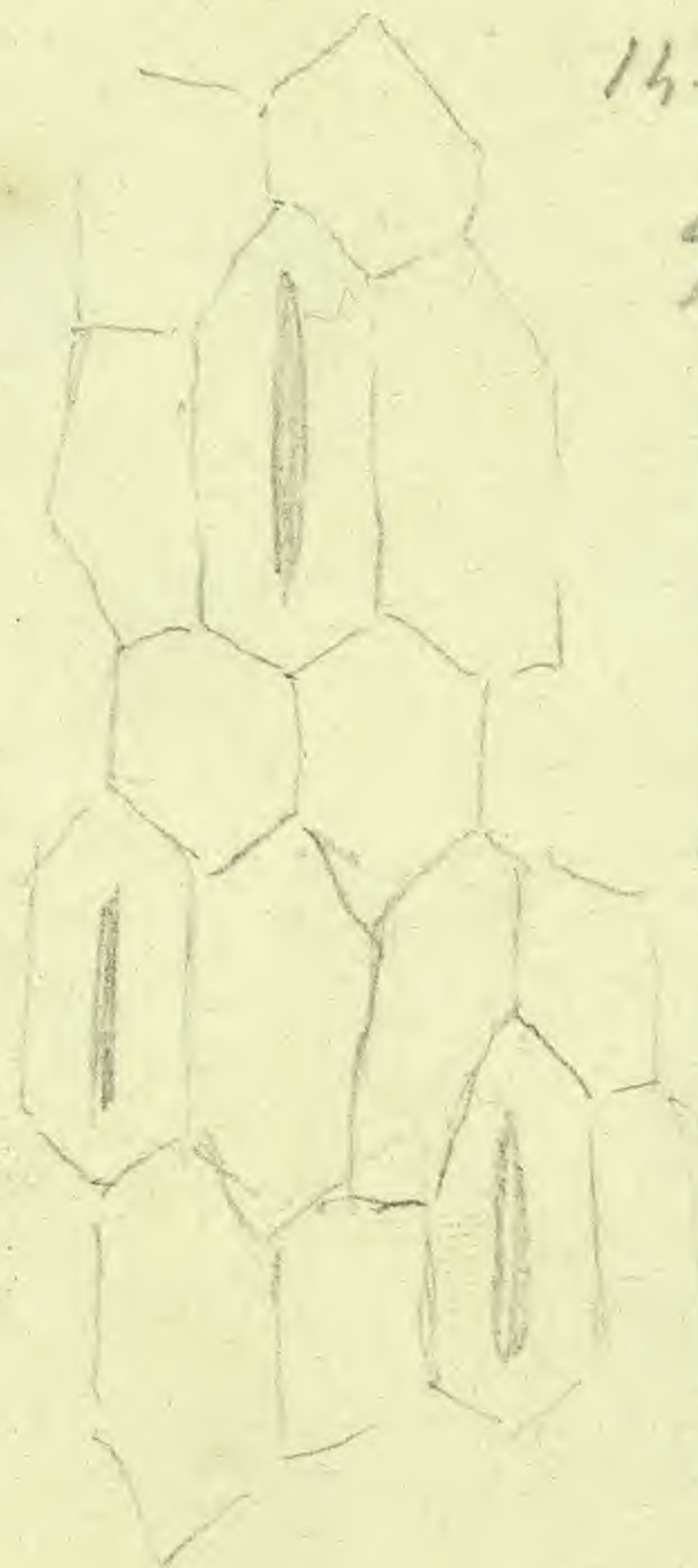
Diam  $\frac{22.5 - 26.5}{60} = 0.37 - 0.44 \text{ mm}$



0.025 - 0.028 mm

4 distinct but very feeble  
leaf bundles  $\frac{26}{6} 67$

no doubt, but true *Engelmanni*!  
Spores reexamined



14-15 leaves

9-12 cm

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*Saxifraga hypnoides* var. *gracilis*

Dec 11 1866

Uxbridge Mass & J. W. Robbins, - H. C. Gray

16 leaves

---

$\frac{24-28}{60} = 0.40 - 0.47 \text{ mm}$

diam of spore

22-25 centim.

long  
at base roughly 8 mm  
diam

very similar to the *Rhododiscus*  
plant

probably not from Uxbridge, but from Colebrook,  
Connecticut.



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J.W. Robby No 13

*Isotria medeolae* Dec 25 1866

diam of macrospores

---

$\frac{230 - 27.2}{60} = 0.38 - 0.45 \text{ mm}$

var *gracilis*  
 shallow Mountain stream on gravelly  
 bottom, Colebrook, Connecticut

no brown scleroderm  
 cells



0.023 - 0.024 mm

June 25 1867

4 regular leaf bundles

x2

very few  
 stomata



macrosporang



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*Isotria medeolae*

July 29 1866

Th. C. Porter, Smithville, Lancaster Co., Aug 1865

rec<sup>d</sup> for E. Durand.

exterior leaves  
with short bases

x 2



Spores 0.38 - 0.47 mm diameter  
mostly 0.42 - 0.43

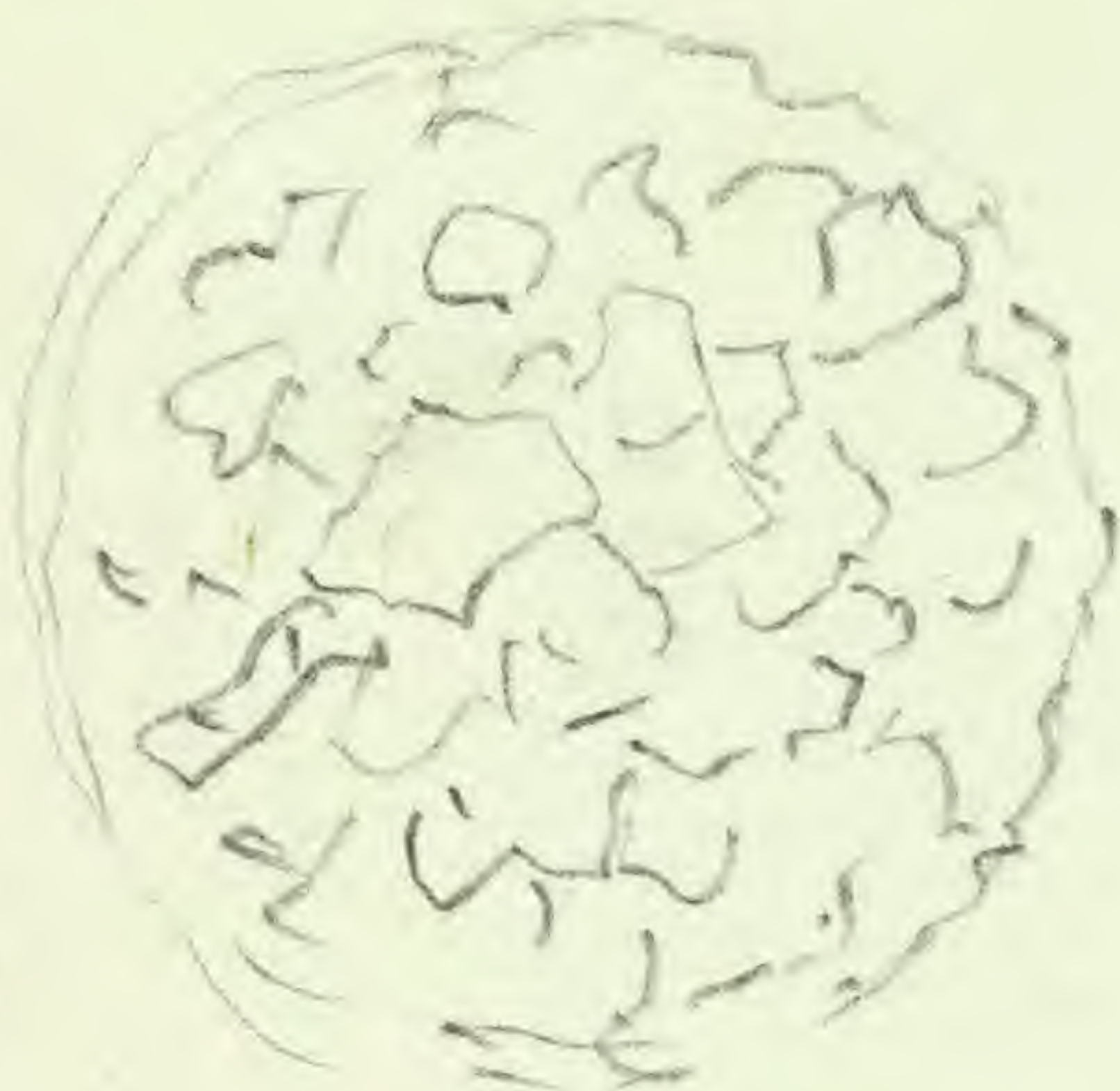
$\frac{23-28}{60}$  mm, mostly  $\frac{25-26}{60}$

very large, thick  
plant



x 60

upper part  
of spore more  
echinate and very  
irregularly reticulate



base of spore  
more reticulate



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*Soetes ligula* var. *deparviflora* June 24 1867  
 Tidal shores of Passaic River  
 Prof Jacob C. Davis, begin of August  
 (1858?)

not quite ripe

$\frac{24-28}{60} = 0.40 - 0.47$  mm  
 mostly 0.43 - 0.44

8-12 leaves  
 10-15 centim.  
 long



x10  
 walls & discoid  
 very thin the  
 latter only, cell  
 layer thick

anastomizing  
 crested ridges  
 cut scarcely  
 and only here  
 and there retical

no scleroderm  
 cells in thin  
 and transparent  
 sporangium

unripe!

no microspores to be seen

Some macrospores  
 only 1 (or 2) very  
 feeble but distinct

x2

largest specimen  
 soaked, x2



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*Drosera longimanensis*

Jan 10 1867

Clarke's Pond, Brattleboro, VT

C.C. Frost 1865-72 - 18 leaves

H. Mann m's

7-12 cm long

reticulation of spots  
very distinct on all surfaces

$\frac{27-31}{60} = 0.45-0.52 \text{ mm}$



0.022 - 0.025 mm

Submerged only in Spring

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